September 6, 2016

Ms. Gina McCarthy, Administrator
Environmental Protection Agency
Office of the Administrator, 1101A
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

Dear EPA Administrator McCarthy.

I am writing on behalf of Audubon Society of Portland (Audubon) and our 16,000 members in the Portland Metropolitan Region regarding the Portland Harbor Superfund Cleanup Plan and Feasibility Study released by the Environmental Protection Agency (EPA) on June 9, 2016. Audubon has been advocating on behalf of the Willamette River since 1902 and had been an active participant in the Portland Harbor Superfund process including serving on the Portland Harbor Citizen's Advisory Group (PHCAG) and as a supporting member of the Portland Harbor Community Coalition (PHCC). In addition to these comments, Audubon incorporates by reference comments submitted by the Portland Harbor Community Advisory Group, Peter deFur and Environmental Stewardship Concepts, LLC, who served as technical advisor to the PHCAG, and the Portland Harbor Community Coalition. We stand in solidarity with the Yakama Nation and strongly support a remedy that fully meets their treaty rights and those of other Tribes with treaty rights on the Willamette and Columbia Rivers that have been impaired. Finally, we appreciate the work of Willamette Riverkeeper which has closely tracked the Superfund Process since its inception.

Introduction

In 2000, Portland Harbor was added to the National Priorities List established under the Comprehensive Environmental Response, Compensation and Liability Act (Superfund). Audubon views the cleanup of Portland Harbor as among the most important challenges facing the City of Portland. Nobody living in Portland today has ever known anything other than a contaminated Lower Willamette River and the persistent and pervasive contamination in Portland Harbor has profound implications for the health of our communities, the health of our environment and the health of our economy. It is time to put the Willamette River on an expeditious and effective path towards real health.

Unfortunately, after sixteen years of study and behind the scenes discussions with Potentially Responsible Parties (PRPs), the EPA has put forward a draft preferred alternative which fails to achieve the threshold criteria for acceptance: Overall Protection of Human Health and the Environment. It will

leave our river heavily contaminated for decades to come and leave people, in particular our most vulnerable and underserved populations, and wildlife at serious risk of ongoing exposure to toxic contaminants. It sacrifices public and environmental health in order to lower the costs for PRPs. It fails to achieve either the interim or long term remedial action objectives (RAOs) and instead excessively over-relies on unproven approaches such as institutional controls and monitored natural recovery. There is nothing in the Feasibility Study (FS) or Clean-up Plan (Plan) or the report of the Remedy Review Board which adequately explains how EPA ultimately arrived at Alternative I, which deviates significantly from any of the alternatives previously presented to the public, as the preferred alternative. We believe that proceeding forward with Alternative I as the remedy for Portland Harbor would be arbitrary and capricious and not in accordance with the law governing clean-up of superfund sites. We believe that it would unnecessarily and unacceptably place the health of our environment and the health of our communities at continued risk.

We urge EPA to adopt a modified version of Alternative G, which is that only alternative under consideration which comes close to achieving the RAOs. In addition to the provisions already contained in Alternative G, we urge the EPA to expand dredging in areas of high human use and high wildlife value where risk of exposure to contamination is greatest for people and wildlife. We also urge EPA to expand treatment of the shoreline and to prioritize dredging over capping wherever possible in order to minimize the long-term impacts to in-water and riparian habitat that is vital to the survival of federally listed salmonids and lamprey. We urge the EPA set a specific date by which the fish consumption advisories specific to Portland Harbor will be lifted rather than leaving this core objective ambiguous and uncertain. Finally we urge the EPA to include a much more thorough analysis of, and plan for the contaminated uplands adjacent to Portland Harbor. Both the FS and Plan are virtually silent on the issue of the uplands, the cleanup of which is integral to achieving source control to prevent recontamination of Portland Harbor and which also present their own direct risks to people and wildlife. We believe that Alternative G, with significant modifications, is the only alternative that is sufficient to meet the threshold evaluation criteria and requirements of the law.

EPA has remained steadfast in its commitment to reaching a final record of decision (ROD) by an arbitrary political deadline of December 31, 2016. This would leave EPA with less than four months to move from the close of comments to a final record of decision, a timeframe that is a fraction of the time it typically takes EPA to complete this phase of a superfund process. We view this commitment to an arbitrary deadline as an affront to the community and to the integrity of this process. EPA and the PRPs spent nearly sixteen years discussing and negotiating the clean-up plan and supporting studies behind closed doors. The public was afforded a mere 90 days at the peak of summer to review, analyze and comment on this plan.

The EPAs public engagement effort was among the most dysfunctional we have seen by a federal agency in recent decades. Despite the challenges with the EPA's public engagement process, the Plan has been met with widespread condemnation by conservation groups, environmental justice groups, community groups and neighborhood associations from across our city. We understand that our community is likely to set an all-time record for public comments submitted on an EPA clean-up plan and that the vast

majority of those comments will be urging the EPA to make significant revisions to the plan. We do not believe that EPA could reasonably consider and respond to the public comments that have been submitted and make appropriate modifications to the plan in the arbitrary timeframe that EPA has set for itself. EPAs preoccupation with the December 31 deadline suggests that the public comment period was little more than a cursory exercise. We urge EPA to take the time necessary to give full consideration to the concerns that have been raised and make modifications to the plan as warranted.

Overview of Audubon Key Points:

1. Alternative I (EPA's preferred alternative) is not sufficient to protect public or environmental health. It fails to achieve virtually all of the EPA's interim and long-term cleanup targets. It will rely for a minimum of decades and perhaps in perpetuity on institutional controls such as fish advisories that have been ineffective over the past 16 years, to warn the public that fish consumption is unsafe. It focuses far too heavily on monitored natural recovery rather than more aggressive strategies such as dredging to address toxic contamination in Portland Harbor.
2. Audubon recommends that the EPA adopt a modified/ expanded version of Alternative G. Alternative G achieves most of EPA's interim targets and is the most aggressive alternative in terms of making progress towards EPA's long-term targets. In addition to what is already contained in Alternative G, Audubon recommends expanding dredging acreage to include locations where there is a substantial risk of recontamination of the river and locations where there is significant risk of exposure to humans or wildlife. These include areas of high human activity, areas of high ecological importance and additional shoreline.
3. Audubon recommends that the Cleanup Plan establish much clearer timelines particularly in relationship to when fish consumption advisories specific to Portland Harbor will be able to be lifted. This is critical for providing the community with meaningful information needed to evaluate the efficacy of the alternatives and for holding EPA and PRPs accountable if targets are not achieved on the projected timeline.
4. Audubon recommends that the Cleanup Plan and FS address both the uplands and the river environments. Although EPA has taken a bifurcated approach to date, retaining oversight of the river and assigning responsibility for the uplands to Oregon DEQ, the uplands and river are inextricably linked. The Plan, FS and ROD should clearly evaluate the work done on the uplands to date, delineate work that remains to be done, and set clear-timelines and monitoring regimes to ensure that source control on the uplands is fully addressed on an ongoing basis.
5. Audubon recommends that the Cleanup Plan and FS explicitly address the recent biological opinion (BiOp) released by NOAA Fisheries for FEMA's National Flood Insurance Program. The City and EPA need to ensure that the Cleanup Plan is directly responsive to the provisions of the BiOp and that cleanup strategies are implemented in a manner that will allow the City to meet the requirements of the BiOp in the future, particularly in regard to retaining enough restoration opportunity areas in Portland Harbor to mitigate for future floodplain impacts.
6. Audubon recommends that EPA significantly improves its efforts in the arena of environmental justice. This includes reviewing and correcting significant deficiencies in its public engagement strategies for future phases of the Superfund process and delineating strategies for ensuring the jobs, economic benefits and other benefits associated with the Superfund process accrue to the

local community and particularly to underserved communities that have been impacted by contamination in Portland Harbor.

7. EPA should remove the Confined Disposal Facility (CDF) from its Proposal. Highly contaminated sediments should be removed to upland waste disposal facilities, not returned to our river, destroying habitat and leaving the river and our communities at risk of future releases.
8. Audubon recommends that EPA take a more holistic approach to cleaning up Portland Harbor including giving more consideration to potential impacts to the Columbia River, considering additional cleanup of PCB sources upriver from the Superfund Site and working with local and state agencies to address current contamination threats in Portland Harbor from existing facilities.
9. EPA should take whatever time is necessary to thoroughly read and respond to public comments and make appropriate changes to the FS and Clean-up Plan, rather than attempting to stay on an unrealistic and politically driven timeline of reaching a final record of decision by the end of the year. Prioritizing the finalization of the ROD by the end of 2016 would relegate the public process to little more than a cursory checkbox.

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TECHNICAL COMMENTS:

1. **Alternative I (EPA Preferred Alternative) is inadequate to protect our communities and our environment.**

Alternative I fails in multiple ways to meet basic obligations of a Superfund cleanup process and will leave our community and environment at risk for decades to come. It is remarkable that after 16-years of process, EPA has settled on an alternative that so profoundly fails to meet its own criteria for success. EPA writes, "Alternative I does not meet all the risk reduction goals at construction completion, but it does achieve a consistent amount of risk reduction throughout the Site when compared with other risk reduction goals." (US EPA Region 102016, page 67). This is a significant understatement. In fact, Alternative I fails to meet the vast majority of the interim and long-term risk reduction goals that EPA has set for this cleanup plan.

We can find no credible basis or explanation for why EPA developed Alternative I following the Remedy Review Board process. There is nothing in the comments of the Remedy Review Board that suggest that EPA should move to an even weaker alternative relative to its then stated preferred Alternative E, while at the same time there are multiple elements of the Remedy Review Board Review which suggest that a stronger remedy than Alternative E should have been considered. Alternative I, which EPA developed subsequent to the review by the Remedy Review Board, is substantially less aggressive than Alternative E, reducing the amount of dredging from a paltry 188.3 acres down to even more paltry 150.2 acres. The most obvious drivers of the shift from E to I appear to have been reducing cost and reducing the amount of work necessary to implement the remedy, while protection of human health and the environment appear to have been sacrificed as EPA moved from a remedy that was severely deficient to another one that was even more deficient.

Among the many deficiencies in Alternative I are the following:

a. Alternative I leaves the vast majority of Portland Harbor contaminated. It relies on monitored natural recovery and enhanced monitored natural recovery (MNR) to resolve contamination issues across 86% of the contaminated area. MNR is a "do nothing" option which relies upon contaminated sediments either being covered over time by cleaner sediments from upstream or river currents flushing contaminated sediments downstream into the Columbia River. It is also predicated on the expectation that contaminants will degrade over time. The heavy reliance on MNR is unsupported by the science, which demonstrates that much of the contaminated area is erosional or transitional rather than depositional, and subject to a variety of factors such as flooding, tidal influences and prop wash, which repeatedly cover and then expose large segments of the affected area. It ignores the historic record, which shows that decades after this site was contaminated, contaminated sediments continue to remain exposed. Finally it ignores the fact that many of the contaminants found in Portland Harbor, including PCBs, heavy metals dioxins and furans, are extremely slow to degrade and therefore MNR is not an appropriate remedy to address these contaminants. Relying on MRN across such a large percentage of the Superfund Area will result in continued exposures of humans and wildlife to contaminants,

recontamination of areas that have been decontaminated, and increased contamination of the Columbia River downstream from the Superfund Site.

b. Alternative I fails to fully achieve the vast majority of the long-term effectiveness and permanence targets adopted by the EPA. Long-term effectiveness and permanence targets refer to expected residual risk and the ability of the alternative to maintain reliable protection of human health and the environment over time once preliminary remediation goals are achieved (Plan at page 52):

- RAO 1—Sediment (Human Health). Reduce cancer and non-cancer risks to people from incidental ingestion of and dermal contact with COCs in sediment and beaches to exposure level that are acceptable for fishing, occupational, recreational and ceremonial uses. **Alternative I exceeds target within an order of magnitude for sediment. There is insufficient data to determine whether it meets targets on beaches.**
- RAO 2—Biota (Human Health). Reduce cancer and non-cancer risks to acceptable exposure levels (direct and indirect) for human consumption of COCs in fish and shellfish. **Alternative I exceeds multiple sub-targets within 1 or 2 orders of magnitude for this RAO**
- RAO 3---Surface Water (Human Health). Reduce cancer and non-cancer risks to people from direct contact (ingestion, inhalation, and dermal contact) with COCs in surface water to exposure levels that are acceptable for fishing, occupational, recreational and potential drinking water supply. **Alternative I is within an order of magnitude of targets for PCBs and 2,3,7,8-TCDD and meets target for cPAHs**
- RAO 4—Groundwater (Human Health). Reduce migration of COCs in groundwater to sediment and surface water such that levels are acceptable in sediment and surface water for human exposure. **Not enough information is provided to determine whether Alternative I meets this target. Alternative I ranks in the following order for effectiveness among the alternatives considered (least effective to most): B, D, E, I, F, G.**
- RAO 5—Sediment (Ecological). Reduce risks to benthic organisms from ingestion of and direct contact with COCs in sediment to acceptable exposure levels. Insufficient data to determine if this target will be achieved. **Uncertain whether Alternative I will achieve this target. Alternative I ranks in the following order for effectiveness among the alternatives considered (least effective to most): B, D, E, I,F, G.**
- RAO 6 – Biota-Predators (Ecological). Reduce risks to ecological receptors that consume COCs in prey to acceptable exposure levels. **Alternative I does not achieve two out of nine sub-targets within this RAO.**
- RAO 7 – Surface Water (Ecological). Reduce risks to ecological receptors from ingestion of and direct contact with COCs in surface water to acceptable exposure levels. **Insufficient data to determine whether Alternative I achieves this target on a site-wide or SDU scale.**
- RAO 8 – Groundwater (Ecological). Reduce migration of COCs in groundwater to sediment and surface water such that levels are acceptable in sediment and surface

water from ecological exposure. **Uncertain whether Alternative I will achieve this target. Alternative I ranks in the following order for effectiveness among the alternatives considered (least effective to most): B,D,E,I,F,G.**

- RAO 9 -- River Banks (Human Health and Ecological). Reduce migration of COCs in river banks to sediment and surface water such that levels are acceptable in sediment and surface water for human health and ecological exposures. **Uncertain whether Alternative I will achieve this target. Alternative I ranks in the following order for effectiveness among the alternatives considered (least effective to most): B,D,E,I,F,G.**

Table 1: Performance of Alternatives in Achieving Long-term and Permanence Targets
Green=Achieves target
Yellow=Most protective alternative when no alternative fully achieves target
Red=Target not achieved

Interim Targets	Performance of each Alternative reviewed					
	B	D	E	F	G	I
RAO 1	Exceeds by order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude (most protective)	Exceeds within order of magnitude 4th most protective
RAO 2: Residual Risk Site-wide	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Achieves	Achieves	Exceeds within order of magnitude (3rd most protective)
RAO 2: Residual Risk: River Mile	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Achieves	Exceeds within order of magnitude (3rd most protective)
RAO 2: Residual Risk: SDU	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Achieves	Exceeds within order of magnitude (third most protective)
RAO 2: Health Index: Site-wide	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude (most protective)	Exceeds within order of magnitude (3rd most protective)
RAO 2: Health Index: River Mile	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude (most protective)	Exceeds within order of magnitude (4th most protective)

RAO 2: Health Index: SDU	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude (most protective)	Exceeds within order of magnitude 3rd most protective)
RAO 2:Infant Health Index: Site-wide	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude (most effective)	Exceeds within order of magnitude (3rd most effective)
RAO 2: Infant Health Index: River Mile	Exceeds by 2 orders of magnitude	Exceeds by two orders of magnitude	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds within order of magnitude	Exceeds by order of magnitude
RAO 2: Infant Heath Risk: SDU	Exceeds by 2 orders of magnitude	Exceeds by 2 orders of magnitude	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds within order of magnitude (most protective)	Exceeds by order of magnitude (2nd most protective)
RAO 3: PCBs	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude (most effective)	Exceeds within order of magnitude (3rd most effective)
RAO 3: TCDD	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude (most effective)	Exceeds within order of magnitude (3rd most effective)
RAO 3 PAHs	Exceeds within order of magnitude	Achieves	Achieves	Achieves	Achieves	Achieves
RAO 4	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain (most protective)	Uncertain (3rd most protective)
RAO 5	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain (most protective)	Uncertain (3rd most protective)
RAO 6: BEHP: River mile	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds within order of magnitude	Achieves	Exceeds by order of magnitude
RAO 6: BEHP-SDU	Exceeds by order of magnitude	Exceeds by order of magnitude	Exceeds by order of magnitude	Achieves	Achieves	Exceeds by order of magnitude
RAO 6: PCBs: River mile	Exceeds within order of magnitude	Exceeds within order of magnitude	Exceeds within order of magnitude	Achieves	Achieves	Exceeds within order of magnitude
RAO 6: PCBs: SDU	Exceeds within order of magnitude	Exceeds within order of magnitude	Achieves	Achieves	Achieves	Achieves

RAO 6: HxCDF: River mile	Exceeds within order of magnitude	Exceeds within order of magnitude	Achieves	Achieves	Achieves	Achieves
RAO 6: HxCDF: SDU	Exceeds within order of magnitude	Achieves	Achieves	Achieves	Achieves	Achieves
RAO 6: PeCDF: River mile	Exceeds within order of magnitude	Exceeds within order of magnitude	Achieves	Achieves	Achieves	Achieves
RAO 6: TCDF: River mile	Exceeds within order of magnitude	Exceeds within order of magnitude	Achieves	Achieves	Achieves	Achieves
RAO 6: TCDF: SDU	Exceeds within order of magnitude	Exceeds within order of magnitude	Achieves	Achieves	Achieves	Achieves
RAO 7: Site-wide	Insufficient Information					
RAO 7: SDU	Insufficient Information					
RAO 8	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain (most protective)	Uncertain (3rd most protective)
RAO 9	Uncertain	Uncertain	Uncertain	Uncertain	Uncertain (most protective)	Uncertain (3rd most protective)

c. Alternative I fails to meet most of the Interim Risk Targets established by the EPA. Interim Risk Targets describe the level of risk that is "ideally achieved" at the end of construction. Once these Interim Risk Targets are reached, Monitored Natural Recovery is the mechanism that EPA will rely upon to achieve further risk reduction. Specifically, Alternative I responds to the interim targets as follows:

- Interim RAO 1—Sediment (Human Health). Reduce cancer and non-cancer risks to people from incidental ingestion of and dermal contact with COCs in sediment and beaches to exposure level that are acceptable for fishing, occupational, recreational and ceremonial uses. **Alternative I does not meet this target.**
- Interim RAO 2—Biota (Human Health). Reduce cancer and non-cancer risks to acceptable exposure levels (direct and indirect) for human consumption of COCs in fish and shellfish. **Alternative I does not meet five out of nine sub-targets.**
- Interim RAO 3---Surface Water (Human Health). Reduce cancer and non-cancer risks to people from direct contact (ingestion, inhalation, and dermal contact) with COCs in surface water to exposure levels that are acceptable for fishing, occupational, recreational and potential drinking water supply. **Alternative I meets Site-wide targets but there is insufficient data to determine if Alternative I meets the target at a Sediment Decision Unit scale.**

- Interim RAO 4—Groundwater (Human Health). Reduce migration of COCs in groundwater to sediment and surface water such that levels are acceptable in sediment and surface water for human exposure. **No quantitative goal is provided in order to determine which alternative is sufficient to meet this target. Alternative I is the third most effective alternative for achieving this target out of the six alternatives evaluated. (Order of effectiveness from least to most: B, D, E, I, F,G)**
- Interim RAO 5—Sediment (Ecological). Reduce risks to benthic organisms from ingestion of and direct contact with COCs in sediment to acceptable exposure levels. **Achieves target.**
- Interim RAO 6 – Biota-Predators (Ecological). Reduce risks to ecological receptors that consume COCs in prey to acceptable exposure levels. **Does not achieve target.**
- Interim RAO 7 – Surface Water (Ecological). Reduce risks to ecological receptors from ingestion of and direct contact with COCs in surface water to acceptable exposure levels. **Insufficient data to assess effectiveness on a site-wide or SDU scale.**
- Interim RAO 8 – Groundwater (Ecological). Reduce migration of COCs in groundwater to sediment and surface water such that levels are acceptable in sediment and surface water from ecological exposure. **No quantitative goal is provided in order to determine which alternatives are sufficient to achieve goal. Alternative I is the third most effective alternative out of the six alternatives (Order of effectiveness from least to most: B, D, E, I, F, G)**
- Interim RAO 9 -- River Banks (Human Health and Ecological). Reduce migration COCs in river banks to sediment and surface water such that levels are acceptable in sediment and surface water for human health and ecological exposures. **No quantitative goal is provided in order to determine which alternatives are sufficient to achieve goal. Alternative I is the third most effective alternative out of the six alternatives (Order of effectiveness from least to most: B, D ,E, I, F, G)**

Table 2: Performance of Alternatives in Interim Risk Targets

Green=Achieves target
Yellow=Most protective alternative when no alternative meets target
Red=Target not achieved or insufficient information

Interim Targets	Performance of each Alternative reviewed					
	B	D	E	F	G	I
RAO 1	Not Achieved	Not Achieved	Achieves	Achieves	Achieves	Not Achieved
RAO 2: Residual Risk Site-wide	Not Achieved	Not Achieved	Not Achieved	Achieves	Achieves	Not Achieved
RAO 2: Residual Risk: River Mile	Not Achieved	Not Achieved	Not Achieved	Not Achieved	Not Achieved	Not Achieved
RAO 2: Residual Risk: SDU	Not Achieved	Not Achieved	Not Achieved	Not Achieved	Achieves	Not Achieved

RAO 2: Health Index: Site-wide	**Not Achieved**	**Not Achieved**	**Not Achieved**	**Not Achieved**	**Achieves**	**Not Achieved**
RAO 2: Health Index: River Mile	**Not Achieved**	**Not Achieved**	**Not Achieved**	**Achieves**	**Achieves**	**Not Achieved**
RAO 2: Health Index: SDU	**Not Achieved**	**Not Achieved**	**Not Achieved**	**Achieves**	**Achieves**	**Achieves**
RAO 2:Infant Health Index: Site-wide	**Achieves**	**Achieves**	**Achieves**	**Achieves**	**Achieves**	**Achieves**
RAO 2: Infant Health Index: River Mile	**Not Achieved**	**Not Achieved**	**Not Achieved**	**Not Achieved**	**Achieves**	**Not Achieved**
RAO 2: Infant Heath Risk: SDU	**Not Achieved**	**Achieves**	**Achieves**	**Achieves**	**Achieves**	**Achieves**
RAO 3: Site-wide	**Not Achieved**	**Achieves**	**Achieves**	**Achieves**	**Achieves**	**Achieves**
RAO 3: SDU	**Insufficient information to evaluate**					
RAO 4:	**Least Achieved**	**5th most effective**	**4th most effective**	**2nd most effective**	**Most Effective**	**3rd most effective**
RAO 5	**Not Achieved**	**Achieves**	**Achieves**	**Achieves**	**Achieves**	**Achieves**
RAO 6	**Not Achieved**	**Not Achieved**	**Not Achieved**	**Achieves**	**Achieves**	**Not Achieved**
RAO 7: Site-wide	**Insufficient information to evaluate**					
RAO 7: SDU	**Insufficient information to Evaluate**					
RAO 8	**Least effective**	**5th most effective**	**4th most effective**	**2nd most effective**	**Most effective**	**3rd most effective**
RAO 9	**Least effective**	**5th most effective**	**4th most effective**	**2nd most effective**	**Most effective**	**3rd most effective**

d. Alternative I relies too heavily and for too long on Institutional Controls (ICs) such as signage, fencing and educational outreach to inform the public that the river will remain unsafe, especially for consumption of resident fish. Put another way, the only reason that the EPA is able to say that Alternative I meets requirements for protecting human health is that the agency plans to put up signs saying that the river is not safe to meet requirements for protection of human health. In fact, of the six alternatives that EPA analyzes, I is the third most reliant on these types of institutional controls (the order is B, D, I, E, F, G) (Clean-up Plan at page 50). EPA

is unable to indicate when institutional controls specific to Portland Harbor will be able to be lifted under Alternative I, but has indicated that that it is likely to take at least 30-years, and that it is possible that institutional controls specific to Portland Harbor will remain in place indefinitely. EPA is well aware that these types of institutional controls have not been effective to date in Portland Harbor or in other similar sites, especially for protecting our most vulnerable populations. It is possible to go down to the Portland Harbor at any time and find people fishing for resident fish in plain view of the existing warning signs. EPA has provided no information as to why it believes future efforts will be more effective than efforts to date. If in fact EPA has identified more effective strategies for implementing institutional controls, we question why they are not already in place since EPA is aware that consumption of contaminated fish from Portland Harbor is an existing and ongoing threat to local human populations. Regardless, institutional controls should not be used as a surrogate for actually remediating toxic contamination in Portland Harbor.

The United States Governmental Accounting Office found in a 2005 report on institutional controls that "Relying on institutional controls as a major component of a selected remedy without carefully considering all of the applicable factors—including whether they can be implemented in a reliable and enforceable manner—could jeopardize the effectiveness of the site remedy." The heavy reliance on institutional controls in the preferred alternative clearly fails to acknowledge this concern---the success of the plan is fully dependent for decades to come on institutional control mechanisms that has not been adequate for the past 16 years and which EPA has no basis for believing will be more effective in the coming decades.[1]

e. Alternative I fails to meet all Applicable and Appropriate Requirements. Specifically it fails to meet or address the following:
    - Measures of protectiveness of human health and the environment required under Oregon Hazardous Substance Remedial Action Rules
    - Clean Water Act guidance and recommendations published in 2000 stating that "EPA generally believes that fish and shellfish consumption advisories…based on waterbody specific information demonstrate impairment of CWA section 101(a) "fishable" uses. This applies to all shellfish consumption advisories and certain shellfish area classifications for all pollutants that constitute potential risks to human health regardless of the source of the pollutant." Since fish consumption advisories would be required at this site for an indefinite and potentially permanent time period, this advisory would impair designated uses of the Willamette River and therefore not comply with ARARs based on State of Oregon Water quality standards.
    - Oregon State Fish Passage Laws (ORS 509.580-509.910)

[1] Willamette Cove previously owned by the Port of Portland and currently owned by Metro, serves as a case in point. Despite the resources of two public agencies and the installation of signs and fencing at this site, Willamette Cove has been nearly continuously occupied over the past several years by upland campers and a flotilla of semi-permanent board campers. It is also frequented by recreational users, their children and pets. The site is heavily contaminated with dioxin, lead and mercury. See photo in Appendix B.

- City of Portland Balance Cut and Fill Requirements (Portland City Code 24.50)
- State of Oregon Land Use Planning Goal 5 (natural resources), Goal 6 (Air, Water and Land Natural Resources Quality), Goal 7 (Natural Hazards) and Goal 15 (Willamette River Greenway)

f. Alternative I leaves significant portions of the contamination unaddressed. According to calculations provided by the Yakama Nation, this includes:
   - 87% of the sediment area exceeding health risk PRGs
   - 67% of the contaminated groundwater area
   - 83% of the sediment area exceeding benthic risk PRGs
   - 35% of the length of contaminated riverbanks
   - Unclear amounts of risk from surface water receptors and from prey for predators.

Alternative I fails to meet several of the Superfund Evaluation Criteria including, but not limited to, Criteria 1 (overall protection of human health and the environment), Criteria 2 (Applicable and Appropriate Requirements), Criteria 3 (Long-term Effectiveness and Permanence), Criteria 5 (Short-term Effectiveness), and Criteria 9 (Community Acceptance). On the final criterion, community acceptance, it is important to note the outside of the PRPs and their advocacy groups, the EPA's cleanup plan has been greeted with near universal condemnation from a broad range of community groups including conservation groups, environmental justice groups, neighborhood associations, advocacy groups for underserved communities, the Portland Harbor Community Advisory Group, the Portland Harbor Community Coalition and Tribes. We are not aware of a single community group outside of the PRPs and their advocates that has accepted the EPA's preferred alternative.

Alternative I's failure to meet Threshold Evaluation Criteria 1 (Overall protection of the human environment), should have been cause for eliminating Alternative I right from the start. Based on its failure to meet Balancing Evaluation Criteria 3 (Long-term Effectiveness) and Criteria 5 Short-term Effectiveness) EPA should have shifted to a more aggressive alternative. Based on the failure to meet Modifying Evaluation Criteria 9 (Public Acceptance), EPA should take a hard look at why after 16 years EPA has failed so profoundly to meet the needs of our community and take the time necessary to select a remedy that will meet our community's needs and the requirements of the law.

2. <u>We recommend that EPA select an enhanced version of Alternative G with significant additional areas of dredging as described below:</u>

Alternative G represents a much more robust approach to cleaning-up Portland Harbor relative to EPA's preferred Alternative I. Alternative G provides significantly more dredging and capping than Alternative I (525 acres versus 150.2 acres of dredging and 184.7 acres versus 64.1 acres of capping respectively). Alternative G also treats significantly more riverbank, where people and wildlife are likely to be most active and face the highest risk of exposure, than Alternative I (26,363 lineal feet versus 19,472 lineal feet respectively). While Alternative G still contains some significant deficiencies, it comes much closer

to meeting EPA's interim and long-term clean-up objectives. Tables 1 and 2 clearly demonstrate the efficacy of Alternative G relative to all other alternatives including EPA's preferred Alternative I. EPA's analysis would appear to suggest that choosing between Alternatives G and I is a matter of choosing between remedies that are both sufficient to attain goals and differ only in their relative strength. This is simply not the case. Alternative I performs dismally on both the interim and long-term RAO's whereas Alternative G achieves the majority of the interim and long-term RAOs and is the strongest performing alternative on all other interim and long-term RAOs where sufficient information is available and RAOs are not achieved. We question the purpose of setting Interim and Long-term RAOs if EPA is then going to select a remedy that fails to achieve the vast majority. Based on our analysis, Alternative G is the only alternative that comes close to meeting the legal obligations of EPA under CERCLA. With the modifications outlined below, we believe Alternative G is the appropriate remedy that should be selected by EPA.

We would recommend the following modifications to improve the efficacy of Alternative G:

a. The overall dredging area should be large enough that the overall contaminant levels site-wide are much closer to background levels for contaminants of concern (COCs) by the end of construction. EPA should site-wide contamination levels in Portland Harbor, not toward today's background levels but rather towards anticipated improvement in background levels over time since the state and other entities are doing work throughout the Willamette Basin to reduce background levels.
b. The lineal feet of shoreline that are treated should be expanded since this is the area where people and wildlife are most active and at highest risk for exposure to contaminants. The shoreline also provides a pathway for recontamination of the river from upland sources.
c. Sediments in the river in proximity to areas of high human activity (fishing, camping, recreating, swimming, etc) whether legal or prohibited, such as Willamette Cove, Cathedral Park and other beach areas, should receive more aggressive dredging treatment in order to minimize exposure risk to people. It is important here to note that focus here should not just be on designated openspace, parks and natural areas since many of our most vulnerable and underserved communities select sites that are less visible for their activities.
d. Sediments in the river in or adjacent to areas of high ecological value and high wildlife use such as the area around Sauvie Island and Harborton Wetlands should receive more aggressive dredging treatment. EPA should also prioritize areas that the City of Portland has identified as potential restoration sites for recovery of salmonids via the North Reach Riverplan and NRDA processes. Finally EPA should prioritize any area adjacent to the river identified as high or medium value habitat in the City of Portland Natural Resource Inventory for the North Reach of the Willamette.[2]
e. The Alternative should fully address all Principal Threat Waste during construction. The use of capping to address Principal Threat Waste is a concern given the high level of toxicity and the potential for future release caused by seismic events, changes in river hydrology, or human error. We urge EPA to address all Principal Threat Waste through removal.
f. The Plan indicates that capping was the default remedy along the shoreline where treatment other than MNR is prescribed. The plan appears to suggest on page 14 that remedies other than capping along the shoreline were only considered for situations where PTW could not be reliably contained

[2] https://www.portlandoregon.gov/bps/article/199017

by a cap. In our opinion dredging should have been the preferred remedy along the shoreline and only where dredging is found to not be feasible, should EPA default to capping. Dredging provides far more certainty, does not necessitate navigational controls and other restrictions on use of the river and preserves the greatest flexibility for commerce, access and habitat restoration. To the degree that EPA has prioritized capping over dredging along the shoreline, we recommend that EPA revisit this issue.

g. A larger portion of the area exceeding benthic criteria should be cleaned-up.
h. Alternative G has the highest reliance of the alternatives considered by EPA on navigational restrictions and land use restrictions. These restrictions are reflective of the significant amount of area that would be capped under this alternative (184.7 acres). EPA should carefully evaluate whether these restrictions would significantly impair use of the river or limit restoration at priority habitat restoration sites. EPA should utilize the City of Portland natural resource inventory as well as potential shallow water salmonid restoration sites identified in the City of Portland North Reach Natural Resource Inventory and the NRDA Process to prioritize .If significant impairment of river use or restoration goals would occur due to capping, consideration of addressing contamination in these locations through dredging rather than capping should be considered.
i. Institutional controls need to be precisely delineated and evaluated in the remedy. This should include 1) locations where institutional control will be required 2) the objective of the institutional control 3) type of institutional control that will be required to achieve the objective 4) timing of institutional control and its duration and 5) Party responsible for implementing, monitoring and enforcing the institutional control. To the degree that EPA relies upon institutional controls that are already in place (for example existing signs or fences) it should evaluate the current efficacy of those controls and explain how those controls will be improved in locations where they have not been adequate. EPA should include provisions to ensure that monitoring and reporting is adequate to ensure public safety and timely reporting of problems.
j. The timeframe for Alternative G should be shortened. Nineteen years for construction is an excessive amount of time to allocate for this alternative. Construction can be both expedited and reduced in cost by increasing the number of projects occurring simultaneously during the fish work window. Additionally, we support comments submitted by Peter De Fur on behalf of the PHCAG include multiple strategies for reducing the duration of construction. We would point EPA specifically towards new technologies such as soil washing, bioremediation, electroremediation and phytoremediation and other technologies described in deFur's comments which could allow significant portions of the dredged materials to be treated ex-situ, but proximal to the harbor, thus reducing costs and increasing efficiency of the remedy.

3. **EPA should set a clear date by which it expects that Portland Harbor specific fish consumption advisories (advisories for PCBs) will be lifted for all members of the community**.

EPA fails to provide a clear timeline in the FS or Clean-up Plan for when it expects the Portland Harbor specific fish consumption advisories to be lifted. EPA's failure to provide a clear timeline directly conflicts with the recommendations of the remedy review board which wrote:

The boards recommend the Region clearly communicate to the local community and other stakeholders the anticipated timeframe needed to carry out the cleanup's active phase (e.g. construction), including the time needed to complete the remedial design (RD) and remedial action phases, and to clearly describe the anticipated recovery time needed after completion of the selected remedy's active phase, such as the time aquatic receptor tissues will need to recover. The boards note that over this extended time period, vigilant efforts to encourage river users to adhere to fish consumption advisories likely will be needed.

In response to the Remedy Review Board, EPA simply acknowledges that it does not intend to provide clear timelines and will instead depend on fish consumption warning signs for an indeterminate period of time and that for some fish consumers, safe levels will never be achieved. EPA writes,

Fish consumption advisories will be required during and post construction activities until RAO 2 is achieved. Post construction fish tissue monitoring will be conducted to determine if fish advisories can be relaxed/ decreased over the course of the remediation time. It is important to note that the dredging, capping, enhanced natural recovery, in-situ treatment, and monitored natural recovery components will not achieve sediment concentrations that can reduce contaminant levels in resident fish to protect all consumers. (EPA Response to Remedy Review Board at page 2). [3]

Here EPA and the Remedy Review Board engage in what is functionally a circular discussion: The Remedy Review Board tells EPA to provide a clear timeline for when contamination levels in fish tissues will be sufficient to lift fish consumption advisories and EPA responds by saying the fish consumption advisories will be lifted if and when contamination in fish tissues achieve their targets. The public is left with nothing but doublespeak, uncertainty and an inability to hold EPA accountable to a meaningful timeline on what is the most urgent threat facing our community from the Portland Harbor Superfund Site. Unfortunately, based on EPA's own analysis, EPA's preferred Alternative I, does not meet either the interim or long-term targets for RAO 2 and is far less protective than Alternative G. The answer therefor to the question the Remedy Review Board posed regarding a timeline for lifting the fish advisories it likely decades and perhaps in perpetuity meaning that the remedy therefore is not sufficient to protect human and wildlife health and is not effective or permanent.

Table 3: Comparison of Alternatives I and G in Terms of Achieving RAO 2 (Plan at pages 52-53)

	Alternative I	Alternative G
RAO 2: Residual Risk Site-wide	Exceeds within an order of magnitude (tied for 3rd most protective alternative tied with E)	Achieves (Most protective alternative)

[3] https://semspub.epa.gov/work/10/100001537.pdf

RAO 2: Residual Risk: River Mile	Exceeds within an order of magnitude (3rd most protective alternative)	Achieves (Most protective alternative)
RAO 2: Residual Risk: SDU	Exceeds within an order of magnitude (3rd most protective alternative)	Achieves (Most protective alternative)
RAO 2: Health Index: Site-wide	Exceeds within and order of magnitude (3rd most protective alternative tied with E)	Exceeds within an order of magnitude (Most protective alternative tied with F)
RAO 2: Health Index : River Mile	Exceeds within and order of magnitude (4th most protective alternative)	Exceeds within an order of magnitude (Most protective alternative)
RAO 2: Health Index: SDU	Exceeds within an order of magnitude (3rd most protective alternative)	Exceeds (most protective alternative)
RAO 2: Infant Health Index: Site-wide	Exceeds within an order of magnitude (3rd most protective alternative tied with E)	Exceeds within an order of magnitude (Most protective alternative tied with F)
RAO 2: Infant Health Index: River-mile	Exceeds by an order of magnitude (3rd most protective alternative)	Exceeds within and order of magnitude (most protective alternative)
RAO 2: Infant Health Index: SDU	Exceeds within an order of magnitude (second most protective alternative tied with F)	Achieves (most protective alternative)

Given that neither Alternative fully achieves RAO 2 and the importance of this RAO in achieving a remedy that is overall protective of human health (Threshold Evaluation Criteria # 1) We can see no justification for adopting Alternative I relative to Alternative G. Alternative G at least meets 4 out of 9 sub-targets under RAO 2 and is the strongest alternative across the board on all 9 sub-targets under RAO 2. Thus Alternative G will either meet or provide the lowest level of risk for all nine sub-targets. If, in fact, both I and G met RAO 2 then EPA's decision to pick I would make some sense, but given that I exceeds on every single sub-objective and is substantially weaker than G on every single sub-objective, EPA's decision to select I cannot be justified.

EPA's reliance on MNR and Institutional Controls such as signage to remedy the deficiencies in Alternative I in no way resolves this problem. As discussed in Section 4 of these comments, institutional controls have proven ineffective to prevent people, especially Portland's most vulnerable and underserved populations, for consuming fish and EPA provides no basis on which to believe that it will make these controls more effective in the future. As discussed in Section 1 of these comments, EPAs overreliance on MNR is fraught with serious problems and provides no certainty what-so-ever as to if or when RAO 2 will be achieved.

EPA's failure to provide a clear timeline and pathway to achieve RAO 2 and lift the Portland Harbor Fish Consumption Advisories fundamentally undermines the public's ability to evaluate the efficacy of the various alternatives. It creates tremendous uncertainty as to when, if ever, the clean-up plans objectives will be achieved. Finally, it make it near impossible for the public to hold EPA or PRPs accountable for meeting the objectives of the clean-up plan since the timeline is functionally open-ended.

EPA should select an alternative that either achieves or comes closest to achieving RAO 2, which is essential to protect human health and the environment. EPA should provide a clear timeline for the implementation of the alternatives including the date by which the Portland Harbor fish consumption advisories will be lifted for <u>all people</u> (including healthy adults, women of childbearing age, children and people with immune system deficiencies). We would note that as a matter of environmental justice, it is unacceptable for EPA to select a plan that results in a long-term and perhaps permanent situation in which woman of childbearing age and children have substantially lower levels of recommended fish consumption than the rest of the population; an equitable clean-up plan should make fish consumption safe for all members of our community.

4. **<u>The Clean-up Plan fails to adequately address contamination , cleanup and monitoring of the uplands adjacent to the river</u>**:

EPA writes in the FS, "An important overall assumption of the FS is that upland sources in the Site will be sufficiently controlled to achieve RAOs using the DEQ process." (FS at page 1-7). However, the FS and Plan fail entirely to provide any substantive information about the progress to date on the uplands, work that remains to be done, or how this work will intersect with the implementation and monitoring of the clean-up plan in the future.

The Portland Harbor Superfund process adopted a bifurcated approach to addressing toxic pollution in Portland Harbor. Oregon Department of Environmental Quality (DEQ) was given responsibility for ensuring that pollution on the uplands adjacent to the river was removed or contained while EPA retained responsibility for developing a cleanup plan for the river. Ultimately however, it is EPA that has responsibility for ensuring that all aspects of the Portland Harbor Cleanup Site, including those under the jurisdiction of DEQ, achieve their objectives and are protective of our community and our environment. Insufficient cleanup or containment of contamination on the uplands adjacent to the river could result in continuing direct exposure of the public and wildlife to contaminants and could also result in recontamination of the river from upland sources.

The Clean-up Plan and F.S. fail to adequately address the upland work being conducted by Oregon DEQ. In fact the Clean-up Plan and F.S. ignore the uplands altogether. There is no evaluation of the work done by DEQ to date, no description of what work remains to be done, no timeline for completion, and no monitoring plan for ensuring that the upland cleanup and containment is effective over time. DEQ's own Upland Source Control Summary Report (March 25, 2016) states:

> *The overarching goal of the JSCS (joint Source Control Strategy) is to identify, evaluate and control sources of contamination that may affect the Willamette River in a manner that is consistent with the objectives and schedule for the Portland Harbor remedial investigation and feasibility study, commonly known as an RI/FS*. (DEQ Summary Report at page 3)[4]

The Remedy Review Board also made specific recommendations regarding upland source control:

> *The boards recommend that the Region work with the State to establish a timeline for upland source control of contaminants to the Willamette River so that upland remediation can take place before or at the same time as in-water treatment and dredging/capping of the river sediment. The boards further recommend that the Region work with the State to ensure that surface water/groundwater discharged into the river from all of the more than 100 contaminated upland locations meet the relevant maximum contaminant levels. In addition, the boards recommend that the Region consider including in its decision documents clear criteria for evaluating when source control is sufficient to start remedial action, and that EPA continue to work with the State to ensure that source control actions are completed in a timely fashion. The boards also recommend that the Region consider whether undertaking source control actions using CERCLA or other federal authorities might be appropriate to ensure the EPA-selected remedial action· s integrity.* (Remedy Review Board Report at page 8)

It is therefore surprising the EPA has failed to actually follow through in the FS or Plan in terms of determining whether in fact the JSCS has met this objective in relation to each of the alternatives considered. It is clear from the DEQ report that in fact not all sources of upland contamination to the river have been controlled. The report states that there are 57 sites where source control plans are uncontrolled and currently have no plan for control, are uncontrolled and have a plan for control, or have had a control plan implemented but have not yet been evaluated for effectiveness (DEQ Report at pages 107-112). A remarkable 32 of these sites or sub-sites fall into the first category: uncontrolled and no existing plan for control. An additional nine sites have been identified by DEQ as sites where investigation may be needed but has not occurred because landowners "are not currently in or communicating with the DEQ Cleanup program." (DEQ Report at page 113) There are many other aspects of DEQ's most recent report that give cause of significant concerns to the overall efficacy of this program. From our perspective, EPA's failure to meaningfully address upland source control in the FS or Plan significantly undermines the credibility and efficacy of any cleanup alternative that is selected.

It is important to note the EPA has ignored the explicit recommendation of the Remedy Review Board on this issue. The Remedy Review Board wrote:

> *The boards recommend that the Region work with the State to establish a timeline for upland source control of contaminants to the Willamette River so that upland remediation can take place before or at the same time as in-water treatment and dredging/capping of the river sediment. The boards further recommend that the Region work with the State to ensure that*

[4] http://www.deq.state.or.us/lq/cu/nwr/portlandharbor/docs/phscSumRepUp.pdf

surface water/groundwater discharged into the river from all of the more than 100 contaminated upland locations meet the relevant maximum contaminant levels. In addition, the boards recommend that the Region consider including in its decision documents clear criteria for evaluation when source control is sufficient to start remedial action, and that EPA continue to work with the State to ensure that source control actions are completed in a timely fashion.

We question the wisdom of taking this bifurcated approach in the first place rather than recognizing that the uplands and in-water contamination are inextricably linked and therefore approaching the entire site in a holistic manner under the purview of a single agency. Regardless, that is now water under the bridge. **However, we do believe that EPA is obliged in the FS, Clean-up Plan and ROD to close the loop and demonstrate that the upland cleanup and containment is 1) complete (or delineate work and a clear binding timeline for implementation for the work that remains to be done) 2) sufficient to protect the public and environmental receptors from ongoing direct exposure, 3) sufficient to prevent recontamination of the river, and 4) that a robust monitoring plan and enforcement resources are in place to ensure ongoing efficacy over time. As currently written the Plan and FS fail on all of these accounts.**

5. **<u>EPA should explain how it intends to ensure that Institutional Controls are effective to prevent human exposure to contaminants.</u>**

All alternatives under consideration by the EPA rely heavily on institutional controls (ICs) such as signage, fencing and outreach. Further, EPA has selected as its preferred alternative a remedy that is significantly more dependent on IC's than at least two other alternatives (F and G) under consideration since it leaves far more contamination in the river and thus will present a higher human health risk. EPA is well aware that the ICs that have been put in place during the past 16 years have been insufficient to prevent the public and especially vulnerable populations from consuming resident fish.

With Portland's current housing crisis our community has seen a dramatic increase in the number of people living along and on the river. Willamette Cove serves as a case in point, where despite public ownership and the collective resources of the Port of Portland and Metro, fencing and warning signs, there has been a proliferation of people recreating, fishing and living in the cove both on shore and in boats. A semi-permanent flotilla of boat based campers has also established itself in the cove. Our observation is that fishing, camping and recreating has been allowed to persist by local, state and federal agencies on both public and private land even where there are clear and present human health hazards from both consumption and dermal contact.

EPA provides absolutely no information in the FS or the Plan as to why it expects that IC's will be more effective in the future. In its response to a recommendation from the Remedy Review Board, EPA says that it will consider the Fish Contamination Education Collaborative established

as part of the Palos Verde Shelf Superfund Site IA Program. (EPA Response to Remedy Review Board at page 2) As far as we can tell, this program is not referenced in either the FS or the Plan so we assume it did not yield any useful information. Instead EPA kicks the can down the road and writes:

> *The Region anticipates working with the Tribes, State, local government and communities to develop outreach activities and informational materials to educate the public about the fish consumption advisories. Specifically, the Region plans to focus extra outreach and educational activities to women of childbearing years, as this subset of the population is at greater risk from consuming contaminated fish.* (EPA response to Remedy Review Board at 2)

Given the dependence on ICs in all of the alternatives considered by EPA, its failure to substantively address how it intends to improve the efficacy of ICs represents a glaring omission and a fatal flaw in the Plan and FS. The uncertainty regarding EPAs ability to improve the efficacy of ICs represents another reason why EPA should error on the side of caution and select a more aggressive remedy that will result in decreased risk of exposure based on removal rather than ICs.

We strongly recommend that EPA provide a detailed explanation of how it intends to improve the efficacy of ICs that will be employed to implement whatever remedy is selected and to error on the side of more aggressive remedies that reduce the reliance in ICs to reduce the risk of human exposures.

6. EPA should evaluate its public engagement process to ensure that in the future, outreach is sufficient to inform and engage the community, including underserved communities, and integrate community perspectives into future phases of the Portland Harbor Superfund Process and related processes such as the allocation of liability and Natural Resources Damage Assessment (NRDA)

From our perspective the public engagement process conducted by the EPA has been largely a failure marked by avoidable and at times inexplicable decisions that have repeatedly disenfranchised the community. This includes, but is not limited to the following:

- Setting an arbitrary deadline (December 31, 2016) for a final Record of Decision (ROD) and failing to leave enough time for an adequate public comment period, despite an overall process that has taken nearly 16 years;
- Repeated last minute postponements of the release of the clean-up plan which undermined the efficacy of stakeholder outreach efforts, forced community stakeholders to cancel and postpone outreach events and wasted limited stakeholder resources;

- Last minute cancelation of the EPA's press conference in Portland announcing the release of the Clean-up Plan and FS and replaced it with a highly restricted teleconference conducted from Seattle.[5]
- Setting a comment period of 60-days (and ultimately extending to 90-days only under intense pressure) far less than other Superfund public process for sites of similar complexity and community impact. For example:
    - Lower Duwamish River (2013): 105 days[6]
    - Passaic River (2014): 120 days [7]
    - Hudson River (2000-2001): 126 days [8]
- Significant technical problems with the online commenting site that resulted in online comments being rejected during the first part of the comment period when public interest was at a peak;
- Failure to make available a reasonable number of printed versions of the plan to the community despite the fact that tracking the plan online is extremely difficult and printing the plan is prohibitively expensive;
- Challenges associated with non-English versions of the plan which resulted in some stakeholder groups not having access to the plan until well into the comment period;
- Conducting public forums with displays and presentations that were so technical and acronym laden that they were extremely difficult for a lay audience to understand, let alone an audience where many participants speak English as a second language;
- Failure to accommodate requests from the community for one additional public hearing conducted in a traditional hearing format (testifying in front of an audience rather than the more intimidating format of testifying alone to a court recorder) despite the fact that a similarly formatted hearing format incorporated into the fourth and final public hearing resulted in significantly increased public engagement.

We urge the EPA to do a full assessment of the deficiencies of the current outreach effort and develop a new outreach strategy to ensure that future outreach efforts in subsequent phases of the Superfund, allocation and NRDA processes are sufficient and effective both to reach and engage the broad local community as well as to reach and engage specific underserved populations.

[5] EPA informed Audubon that the in person press conference was cancelled due to concerns that PRPs might disrupt the conference. While such behavior would be unfortunate, we still assert that a plan of this importance to our local community should have been released in person. Additionally, EPA refused to provide access to the teleconference to entities other than credentialed media. These types of actions ultimately serve to suppress public interest and engagement in the plan and created a less than effective forum in which to provide critical information to the press and the public.

[6] https://yosemite.epa.gov/r10/cleanup.nsf/sites/lduwamish

[7] https://cumulis.epa.gov/supercpad/cursites/dsp_ssppSiteData1.cfm?id=0200613

[8] https://www3.epa.gov/hudson/plans.html

7. **<u>The Plan should address environmental justice issues and provide information on strategies for ensuring that economic benefits, jobs and other benefits associated with the cleanup process accrue to the local community and especially to underserved populations that have been impacted by the contamination</u>**:

EPA has affirmed its commitment to environmental justice principles. In 2009, EPA Administrator, Lisa Jackson wrote:

> *We must take special pains to connect with those who have been historically underrepresented in EPA decision making, including the disenfranchised in our cities and rural areas, communities of color, native Americans, people disproportionately impacted by pollution, and small businesses, cities and towns working to meet their environmental responsibilities. . . [T]hey deserve an EPA with an open mind, a big heart and a willingness to listen . . . As we meet these challenges, we must be sensitive to the burdens pollution has placed on vulnerable subpopulations, including children, the elderly, the poor and all others who are at particular risk to threats to health and the environment. We must seek their full partnership in the greater aim of identifying and eliminating the sources of pollution in their neighborhoods, schools and homes.*

As written, this plan fails to keep faith with this creed. The FS and Plan simply fail to include any sort of meaningful discussion of environmental justice objectives whatsoever. This failure manifests itself on multiple levels. These include but are not limited to a) failure of EPA's outreach strategy to date to adequately engage underserved communities, b) selection of a preferred alternative which marginalizes Portland's most vulnerable and underserved populations, especially populations that depend on the river for subsistence fishing, by subjecting them to contaminated fish for an extended and indeterminate time period c) differential treatment of women of childbearing age, children and people with immunosuppression challenges who, under the preferred alternative, will continue to be subjected to different recommended levels of fish consumption relative to healthy adults for an extended and indefinite time period, d) overdependence on institutional controls such as signage and fencing that have not been effective to date in preventing people from accessing areas of high risk or consumption of contaminated fish and, e) failure to identify strategies, goals and objectives to ensure that communities that have been disproportionately impacted by the contamination in Portland Harbor benefit directly from the clean-up.

EPA should include the following in the final adopted FS, Plan and ROD:

a. EPA should utilize Federal environmental Justice Principles such as NEPAs six guiding Environmental Justice principles. [9]

[9] Council on Environmental Quality. 1997. Environmental Justice under the National Environmental Policy Act. *Theory of Ordered Sets and Its Applications*.

b. The Clean-up Plan should include a robust section delineating goals and resources to ensure that jobs, economic benefits and other benefits associated with the cleanup process accrue to the local community and especially to affected, underserved populations.
c. EPA should include regular health screenings and provision of necessary medical treatment for vulnerable populations that may be affected by consumption of contaminated fish or other exposure pathways to contaminants in Portland Harbor as components of the plan and ROD.
d. The final Plan and ROD should include robust monitoring of contamination levels in fish tissues, water column, sediment and air distributed throughout the Superfund area and throughout the calendar year with particular priority placed on areas where active remediation is occurring and where human populations are likely to be fishing or otherwise active.[10] The Plan and ROD should also include strategies to conduct aggressive target outreach in the event of a spike in toxicity levels in fish tissue, water column, sediments or air in which the public is likely to have exposure.
e. The final cleanup plan and ROD should include clear and robust provisions for ongoing public engagement throughout all ensuing phases of the Superfund process to ensure public input, understanding and acceptance as clean-up plans are designed, refined and implemented.
f. The Plan and ROD should include a very clear explanation and plan for where and how institutional controls such as signage and fencing will be utilized to protect the public from exposure to contaminants that exceed levels sufficient to protect human health. (See Section 4)
g. The Plan and ROD should include a prioritization to cleanup sites on public and private land where fishing, camping or recreating is occurring. To the degree necessary EPA should fund a study to determine where the most vulnerable communities are conducting activities along the river.
h. The Plan should include an environmental justice analysis similar to the one that was produced for the Lower Duwamish River.[11] It is unclear to us why EPA felt it appropriate to produce this type of analysis for the Lower Duwamish but not for Portland Harbor.

8. **The Clean-up Plan and F.S. should address the recent Biological Opinion released by NOAA Fisheries regarding the National Flood Insurance Program**:

In the spring of 2016, NOAA Fisheries released a biological opinion (BiOp) establishing reasonable and prudent alternatives that communities in Oregon will have to meet in order to qualify for the National Flood Insurance Program (NFIP) and avoid jeopardy to 16 ESA-listed anadromous fish species and Southern Resident killer whales and avoid destruction or adverse modification of designated or proposed critical habitat for the 16 anadromous fish species.[12] Audubon Society of Portland was the lead plaintiff in litigation that resulted in this BiOp.

We question whether compliance with the BiOp should be considered an ARAR (Evaluation Criteria # 2) and therefore qualify as a threshold criteria that must be met by the selected remedy. The FS states that

[10] It is important to note that many underserved populations do not utilize public access areas to conduct fishing activities so simply focusing on areas such as parks is insufficient to protect vulnerable populations.
[11] https://www3.epa.gov/region10/pdf/sites/ldw/pp/ej_analysis_ldw_feb_2013.pdf
[12] http://www.westcoast.fisheries.noaa.gov/publications/habitat/2016_04-14_fema_nfip_nwr-2011-3197.pdf

"FEMA regulations that require projects not to adversely impact flood storage capacity without adequate mitigation are ARAR." (FA at page 2-4). By the same token, we believe that reasonable and prudent alternatives issued under a NMFS BiOp to ensure that the NFIP program complies with the Endangered Species Act, also should be considered ARAR. We urge EPA to review the F.S. and Clean-up Plan to ensure that they are consistent with the BiOp. Specifically we urge EPA to consider the following:

a. Does the plan comply with the specific terms of the BiOp such as avoiding construction in the floodway, fully mitigating for construction that adversely impacts salmonid habitat both in the river and on adjoining floodplains, and providing balanced cut and fill for to compensate for any filling in the floodplain?
b. Does the plan allow the City to retain adequate flexibility to mitigate for future floodplain impacts in the North Reach of the Willamette unrelated to Superfund? For example, over reliance on capping or leaving excessive amounts of contamination in place, could result in a situation in which there may not be adequate opportunities available to mitigate for future industrial development activities within the floodplain in the North Reach. This could result in a situation where either development is precluded or in which mitigation costs increase because mitigation has to be done outside the North Reach rather than in close proximity to the actual impact area.

9. **The Plan should include a much clearer description of the natural resource mitigation that will be required to compensate for habitat loss and other loss of natural function resulting from the implementation of the remedy**:

The discussion of natural resource mitigation that will be required as a result of implementation of the remedy (as opposed to mitigation that will be required under NRDA to compensate for impacts of contaminants on wildlife and other natural resource values), is cursory. EPA should more clearly define the local, state and federal laws under which mitigation will be required. EPA should include in this estimate, mitigation that will be required under NMFS' NFIP BiOp (see Section 8). It should also consider requirements under local regulations such as the city of Portland Greenway Code.

10. **EPA should reject the Confined Disposal Facility Option**:

EPA has presented two different alternatives for disposal of dredged contaminated sediments: 1) transport all materials to appropriate upland waste disposal sites or 2) Create a confined disposal facility (CDF) in the river for lower risk materials and transport more toxic materials to appropriate upland disposal facilities. We strongly urge EPA to reject the CDF proposal. The community has expressed widespread concern about concentrating toxic materials in our river including loss of river habitat, ongoing public or wildlife exposure, leakage and catastrophic failure in the event of an earthquake. EPA has made contradictory statements regarding the level of toxicity of materials that would be deposited in a CDF, on the one hand assuring the public that only low level contaminated sediments would be placed in the facility and on the other hand telling the public that it is only dredging highly toxic areas of the river. Our river is not an appropriate place to concentrate contaminated sediments---doing so increases long-term risk to our communities and our environment and increases the level of uncertainty associated with what is already a highly uncertain plan.

We applaud the Port of Portland's decision to reject housing a CDF at Terminal 4. On August 17, 2016, the Port informed Audubon via email of the following:

> *The Port is not interested in taking on long-term management of a facility that the Port's neighbors adamantly oppose. The Port has also considered the economic risks and uncertainties with the CDF and has concluded that it may not be a good use of Port resources, especially as the Port is facing significant constraints on its general fund. The Port wants to find a protective, cost-effective solution in the Portland Harbor, and to be a good neighbor. Considering the cost uncertainty and the community's opposition, we have concluded that a T4 CDF is not that solution.* [13]

We believe that the Port's decision should effectively end the discussion regarding the CDF option but wanted to put ourselves clearly on record regarding our opposition should this option resurface.

11. EPA should carefully assess and describe potential impacts to the Columbia River resulting from its clean-up strategy.

EPA relies on Monitored Natural Recovery across 86% of the Portland Harbor Superfund Site. MNR depends upon a combination of deposition of clean sediment on top of contaminated sediment and dispersal downstream. The FS and Plan fail to characterize how much contaminated sediment is likely to get flushed downstream into the Columbia. While the Willamette will benefit from this strategy over time, the Columbia will pay the price. Notably, the areas directly downriver of the confluence include important Wildlife Areas including the Sauvie Island Wildlife Area and the Ridgefield National Wildlife Refuge. They also include heavily used public beaches on Sauvie Island. Finally, they include potential NRDA mitigation sites such as the Alder Creek Site that has been developed by Wildlands at the southern tip of Sauvie Island. [14]

EPA's Report, *Columbia River Basin: State of the River Report for Toxics 2009*, notes that EPA joined other state, federal tribal, local and non-profit partners to form the member of the Columbia River Toxics Reduction Working Group in 2005 with the goal of "reducing toxics in the Columbia River Basin and prevent further contamination." (EPA Columbia River Basin Toxics Report at page 1). Initiative # 2 in this report calls for the following:

> *Initiative #2: Identify, inventory, and characterize the sources of toxics in the Columbia River Basin There have been past efforts to identify and characterize sources of toxics in the Columbia River and its tributaries,[1] some of which are ongoing (e.g., Upper Columbia River, Hanford, and Portland Harbor investigations; Working Group efforts; and TMDL development in the Basin).*

[13] Email communication between Ann Gravatt, Port of Portland, and Bob Sallinger, Audubon Society of Portland, on August 19, 2016 (See Appendix A).

[14] http://www.wildlandsinc.com/pacific_nw/alder-creek-restoration-project/

However, additional information is needed to better identify, inventory, and characterize the sources of these toxics. This information will be used to prioritize reduction efforts and develop long-term monitoring and research plans. To fill in these critical information gaps, the Working Group has started to identify important "next steps." These steps include, but are not limited to, (1) identifying, inventorying, and mapping all potential sources of toxics, both within and outside the Basin; (2) determining the contaminants of concern from these sources; (3) collecting information on the concentrations of the contaminants of concern, where available; (4) determining the quantities of contaminants reaching the Columbia River and its tributaries, where possible; (5) evaluating the fate and transport of contaminants and their breakdown products from air and soil into the Columbia River and its tributaries; (6) determining the role of sediments as a source of contamination; and (7) prioritizing those sources where the greatest reduction efforts are needed and can be implemented. (EPA Columbia Basin Toxics Report at page 40)

It appears to us that EPA is sacrificing the health of the Columbia River in order to improve the health of the Willamette River by selecting Alternative I which depends heavily on MNR rather than more environmental protective alternatives that rely more heavily on dredging. **In order to meet important toxic reduction objectives on <u>both</u> rivers, EPA needs to evaluate the relative impacts of all alternatives on the Columbia River and incorporate the information into their alternative selection process. EPA should provide clear characterization of how the clean-up plan and specifically MNR is likely to impact toxic loads on the Columbia River, whether that will provide increased risk to humans or wildlife using natural areas and public areas near the confluence, increase risks to humans consuming fish on the Columbia, and how it might impact treaty rights along the Columbia River.**

12. <u>EPA should account for the potential impacts of climate change on the efficacy of the remedy</u>

It is unclear whether EPA has adequately accounted for the potential impacts of climate change on the efficacy of their proposed alternative or on the other alternatives that were considered. This is required under Executive Order 13653.[15] The impacts of climate change are likely to have a profound impact on the Willamette River during the life of the EPA's cleanup plan, all the more so given that it is far from certain when the cleanup goals will actually be achieved. This is likely to include increased flood events in terms of both frequency and volume. This could have profound implications for the efficacy of the remedy across the uplands, riverbanks and in-water environments. EPA should consult its own Climate Change Adaption Technical Fact Sheet as well as other tools that it has developed to incorporate the impacts of climate change into its Superfund Program.[16]

[15] https://www.whitehouse.gov/the-press-office/2013/11/01/executive-order-preparing-united-states-impacts-climate-change

[16] https://www.epa.gov/superfund/superfund-climate-change-adaptation

13. EPA should develop cleanup levels for all chemicals of concern

There are 64 chemicals of concern (COCs) found in Portland Harbor. EPA based its alternatives on only 6 of the 64 on the assumption that addressing these 6 COCs would effectively address the remaining 58 COCs. We believe that there is a significant risk that this approach underestimates the cumulative risk presented by these chemicals. We urge EPA to include in the FS, Plan and ROD cleanup levels for all 64 COCs and fully account for the cumulative effects of all COCs found in Portland Harbor.

14. EPA should evaluate and reconcile differing RAL assignments for Sediment Decision Units (SDUs) that a used for recreation, fishing or other public use opportunities.

The Plan assigns different RALs to areas such as Cathedral Park and Willamette although both areas are anticipated to provide similar human uses. EPA should ensure that all areas that currently provide or in the future are anticipated to provide recreation, fishing or other public uses are given appropriate RAL assignments.

15. EPA should include a robust monitoring program in the Clean-up Plan:

The Clean-up Plan and ROD should include robust air, water and fish tissue monitoring in order to document changes over time and potential exposure risks created by the clean-up process itself. Monitoring is essential to evaluate the efficacy of the cleanup remedy and also to ensure public and environmental health during the clean-up. Monitoring protocols should be established for the superfund area and the surrounding communities that have adequate geospatial and temporal distribution to ensure that localized exposure risks and short-term exposure risks will be captured. Monitoring should be done be a qualified independent consultant who answers to the agencies and community as opposed to the PRPs. It is important that EPA establish a baseline for the metrics being monitored and ensure that monitoring protocols are standardized that data sets are comparable over time.

16. EPA should assess atmospheric transport of PCBs as a potential exposure pathway:

The EPA fails to analyze the potential of atmospheric transport of PCBs as a potential exposure pathway in either the clean-up plan or the FS. This is a significant omission in EPA's analysis. The PHCAGs comments provide an extensive discussion of the scientific literature supporting the need to analyze this risk. **We urge the EPA to include a robust analysis of the risk vaporization of PCBs and address it as appropriate in the final plan and ROD.**

17. EPA should maintain the lead role over the entire Superfund Site including in-water and upland areas of contamination.

We understand some PRPs and potentially, the State of Oregon are encouraging EPA to turn over all or a portion of the oversight of the clean-up of Portland Harbor to the Oregon Department of Environmental

Quality (DEQ). Audubon strongly opposes any increase in the oversight role of DEQ and as per our comments in Section 4 recommends that EPA assert strong oversight over the uplands that to date have been the primary responsibility of DEQ. We recognize that DEQ has an important role to play in the cleanup of Portland Harbor. However, that role should be subservient to EPA and any DEQ role should carefully defined in the ROD with clear benchmarks including timelines for implementation, outcomes and monitoring and that EPA should retain full oversight of DEQ activities. We are concerned that DEQ is far more susceptible to pressure from PRPs and politicians than EPA. It is also notoriously underfunded and subject to pressure and punitive action via the Oregon legislature through the budget process. Finally, DEQ is currently at an all-time low in terms of public trust and public confidence in Portland as a result of recent scandals involving air quality in our community.[17] It is notable that confidence in DEQ is so low right now that Portland's next Mayor, Ted Wheeler, has indicated that he may support the creation of a local air quality authority.[18] Under these circumstances, it would be an unconscionable abrogation of EPA's oversight responsibilities to transfer any additional responsibility to DEQ. EPA should not delegate its federal trust authority to the State of Oregon.

We urge EPA to retain full oversight responsibility for the Cleanup of Portland Harbor and ensure that any role that DEQ plays within that context is explicitly defined with clear timelines and benchmarks for success, monitoring, transparency and public involvement under the supervision of the EPA.

18. **EPA should reject requests to break Portland Harbor into "Operable Units."**

We understand that the City of Portland, other PRPs and potentially the State of Oregon are requesting that the EPA adopted a new approach to Portland Harbor that would break the site into "operable units." 40 CFR 307.14 defines "operable unit" as "a discrete action that comprises an incremental step toward comprehensively addressing site problems. This discrete portion of a remedial response manages migration, or eliminates or mitigates a release, threat of release, or pathway of exposure." While this shift in approach may have a certain superficial appeal, it is not appropriate in this situation. The reality is that the clean-up Portland Harbor Superfund site will be implemented in a series of individual clean-up projects involving different, and sometimes overlapping, groups of PRPs. Nothing in the currently proposed alternatives precludes approaching the clean-up on a logical, area by area basis with subsets of responsible parties at the table. However, breaking Portland Harbor into discrete "operable units" involves far more than simply approaching implementation in a logical and scale appropriate manner. It would require restructuring the entire FS and Plan in a completely different manner and developing separate records of decision. It could unnecessarily set the process back months or even years.

Operable Units are typically defined early in the Superfund process and inform the basic structure in which the studies and plan are developed. It is foundational decision; not one which is made at the 11th hour when the plan is nearing completion. EPA made a decision early in this process not to break

[17] http://www.oregonlive.com/environment/index.ssf/2016/02/oregon_senators_portlands_toxi.html http://www.opb.org/news/article/residents-demand-action-on-portland-air-pollution/

[18] http://www.tedwheeler.com/wheeler-blasts-oregon-deq-over-se-portland-air-pollution/

Portland Harbor into operable units due in large part to the degree to which contaminants from individual sites have been disperse in intermingled far beyond their site of origin. Many of the PRPs who are now raising this issue were actively engaged when this decision was made and failed to raise it as a concern over the 16 years that this process has been evolving. Demanding that the entire approach to Portland Harbor be revisited at the 11th hour strikes us primarily as an effort to undermine, disrupt and delay the process by entities that could and should have brought this concern forward years ago.

We urge EPA to reject any and all requests to fundamentally restructure this plan into Operable Units as this will require fundamentally revisiting the 16 years of work that has been done to date leading to extensive and unnecessary delays and disruption; EPA can keep the current structure of the FS, Plan and other supporting documents, and still approach implementation of the plan in a manner that is logical, sequences and scale appropriate.

19. <u>We reject the City of Portland's comments as being representative of community opinion.</u>

Community acceptance is one of the nine Superfund Evaluation Criteria (Modifying Criteria #9). As the City of Portland notes in its comments, it wears multiple hats including 1) steward of the river, 2) regulator and planner, and 3) Potentially Responsible Party (City of Portland Comments at page 2). Notably absent from this list is the city's role as a representative of the public interest. It is perhaps appropriate that the City chose to leave this role out of its comments because in this aspect of its obligations, it has failed badly.

In our opinion, the City has behaved primarily in its capacity as a PRP, working to minimize its liability and the liability of other PRPs, with limited regard for the public interest. Despite spending over $52 million in public ratepayer funds to participate in the Lower Willamette Group for the past 16 years, the City has done exceedingly little to engage or inform the public about how the Superfund process was evolving during that time period. Despite repeated requests from groups such as Audubon, dating back more than five years, for the City to launch an aggressive public engagement effort, the City waited until the last possible minute to begin its outreach efforts. These included a confusing, biased and non-scientific public opinion poll in the spring of 2016 which many community groups, including Audubon refused to disseminate because of its poor quality. It also included community engagement grants released just prior to the short public comment period. Finally it included a single public hearing that was held at a difficult to reach location in North Portland. The City of Portland's outreach efforts can best be summed up by the phrase "far too little; far too late."

The City's cursorily summarizes the feedback it received in the following manner: "Many would like to see a more aggressive cleanup to protect human and environmental health and to see fish advisories lifted as soon as possible; others want to keep clean-up costs down and have concerns about community activities from cleanup activities and construction" (City of Portland Comments at page 2). This summary fails to capture in any sort of meaningful way the community's perspective or to differentiate between the community at large versus the PRPs and their lobbying groups such as the

Working Waterfront Coalition and the Portland Business Alliance. We are not aware of a single community group, conservation group, environmental justice group or neighborhood group, which is not either a PRP or directly aligned with PRPs, that has supported the EPA's preferred alternative. From our vantage point, as an organization that has worked on conservation issues in Portland for more than a century, the community at large is uniquely united in terms of its condemnation of the EPA's preferred alternative and its inadequacy to protect human and environmental health.

It is also worth noting that other public agencies also failed in terms of their efforts to solicit input from the community regarding this plan. Many of these agencies are now submitting comments to EPA with little or no public input. Many of their comments suggest that EPA should do a better job on outreach. While we agree with this sentiment, we would also suggest that some of these agencies take a hard look at their own public outreach activities and ensure that they also achieve a higher standard going forward. Specifically, we would note the following:

a. **Metro**: Metro is a PRP, a regional planner and an elected representative body for the region. Metro conducted no outreach and held no public hearings during or close to the public comment period regarding their properties or the site as a whole
b. **Multnomah County**: Multnomah County is an elected representative body for the region in which the Portland Harbor is located and also manages the county health department. Multnomah County did no outreach to solicit public perspective and conducted no public hearings during the public comment period.
c. **Port of Portland**: The Port is a PRP and a public entity with a board appointed by the Governor of Oregon. The Port did no public outreach to solicit public perspectives and conducted no public hearings during the comment period. The Port Commission received no official briefings regarding the cleanup plan or the Port's recommendations during the comment period.
d. **State of Oregon**: The State of Oregon is a PRP and has responsibility for source control of the uplands via the Oregon Department of Environmental Quality and issuing health advisories for Portland Harbor via the Oregon Health Authority (OHA). The Governor's office did conduct a small number of individual meetings with community groups during the public comment period but failed to do any meaningful outreach to the general public or hold hearings to solicit perspectives from the general public during the public comment period. DEQ and OHA failed to put the Superfund issues on any of the agendas for the DEQ Environmental Quality Commission during the public comment period.

Under ordinary circumstances, we would not expect public agencies and governments to hold independent hearings and conduct independent outreach on a plan which is the primary responsibility of another agency. However, this situation is unique in several ways. First, many of the entities discussed above are PRPs and have direct responsibility for cleaning-up contamination. Second, State/ Agency Acceptance and Community Acceptance are two of the nine official superfund evaluation criteria (Criteria # 8 and #9 respectively). Third, many of these agencies played a key role over the past 16 years helping develop this plan and have had extensive interactions with private sector PRPs during this time. We believe under these circumstances they all had an obligation to be more transparent and more inclusive with the public at large. It should not be discounted however, that the EPA's as the lead agency

on the Superfund clean-up has ultimate responsibility for the failed public process (see Section 6) and that this may have to some degree have had a cascade effect on the ability of other agencies and governmental entities to adequately engage.

We would urge the EPA to view the City of Portland's comments as primarily the perspective of a PRP who is putting costs above other important community values and instead look to individual comments that have been submitted to ascertain the level of community acceptance. We would also urge EPA in future phases of the Superfund process to try to facilitate presentations that incorporate the participation of other agencies that have designated roles in the Superfund process. We would point specifically to the county health department, Oregon Health Authority, Oregon Department of Environmental Quality and Portland Bureau of Environmental Services as key players that should be present to hear from the public and available to answer questions from the public.

20. EPA should assess the risks presented by previously dredged materials that were removed from Portland Harbor and determine whether current disposal situations are sufficient to protect human and environmental health:

The EPA and the State of Oregon have allowed ongoing dredging of Portland Harbor including the shipping channel and ship berths in order to maintain the industrial operations of Portland Harbor. Significant amounts of dredged material have been removed from Portland Harbor since it was designated at a Superfund Site in 2000. This material has been disposed of in a variety of locations including Columbia River islands that provide important wildlife habitat and public recreational activities. From our perspective, the criteria used to assess the risk presented by these dredge materials has been inconsistent and insufficient to protect public health or the environment. For example, Portland Harbor Dredge spoils have been placed on West Hayden Island under the State's "Beneficial Use Policy" based on the incorrect assumption that the site would be paved over and developed within five years. Another example is the proposal to place contaminated dredge spoils in the Columbia River adjacent to very active Sauvie Island beaches. This proposal was only abandoned after there was widespread public opposition and would likely have been implemented but for the public opposition.[19] EPA should include in the clean-up plan, FS and ROD a review of all contaminated materials that have been removed from Portland Harbor since it was listed under CERCLA, including their current location and whether the disposal scenario is sufficient to meet the standards established to protect public and environmental safety set out in the FS, Plan and ROD. Sites that are not sufficient to meet the goals set out by the FS, Plan and ROD should have their own clean-up requirements incorporated into the plan. It is deeply disconcerting that EPA has allowed so much contaminated material to be redistributed outside of Portland Harbor prior to adopting a remedy and ROD and we believe that in doing so, EPA has potentially distributed toxic materials that pose a risk to people and wildlife over a far greater geographic area than was originally contaminated.

[19] http://www.pamplinmedia.com/scs/83-news/265732-137513-dredge-spoils-dump-plan-spurs-discontent-on-sauvie-island http://portlandtribune.com/scs/83-news/269529-143795-sauvie-island-residents-relieved-as-dumping-plans-change

21. **EPA should provide more detailed and comprehensive explanation of how it reached its cost estimates and how it used those estimates to inform the decision to go with a less aggressive alternative (Evaluation Criteria # 9).**

It is unclear in the FS and Plan how EPA arrived at an estimate of $745,890,000-$811,290,000 for Alternative I which is substantially reduced from estimates for the closest comparable Alternative (E) when the draft plan was presented to the Remedy Review Board. The Remedy Review Board found that "many of the cost assumptions and resulting total costs (e.g. dredging unit cost) are generally consistent with those at other sediment sites" but recommended that the EPA look further at mitigation costs, professional technical services and offloading and dewatering costs. (Remedy Review Board Comments at page 7). The FS and Draft Plan provide little insight into how the costs of Alternative E (serving as the closest surrogate for Alternative I) could have been so substantially reduced between the draft shown to the remedy review board and the public comment draft. The comments of the Remedy Review Board would indicate that the original cost estimates for E were likely accurate. EPA should provide a detailed explanation of why it chose to provide substantially reduced cost estimates in the public review draft.

Additionally, we would urge EPA to include contingency funding estimates in the event that cleanup goals are not achieved in the 30-year timeframe. Given the deficiencies in Alternative I, there is a high likelihood that goals will not be achieved and that further remedial action will be required. It is therefore possible that EPA is both overstating the efficacy and understating the cost of Alternative I, resulting in invalid cost comparisons with other more aggressive alternatives.

22. **EPA should Ensure that Economic Benefits of Cleanup are assessed and incorporated into remedy selection process:**

Much of the opposition to the EPA clean-up plan has been generated by PRPs and their advocacy groups claiming that the Superfund Cleanup Plan will cost jobs and bankrupt small businesses along the river. We have seen no evidence to support these assertions. In 2012, ECONorthwest has produced a study entitled, Economic Impacts of the Portland Harbor Superfund Cleanup. [20] This report paints a far different perspective in terms of potential economic benefits that what has been promoted by PRPs.

> *In the short-run, the cleanup would increase the utilization of the Portland region's economic capacity—boosting incomes, employment, and tax revenues. Economists refer to these types of changes as the cleanup's economic impacts. As Tables 1 and 2 show, cleanup spending would employ workers, equipment, and other resources in Portland's economy. These workers, equipment owners, and resource owners would, in turn, spend their compensation in the regional economy. This spending, in turn, supports jobs and generates incomes for others in the regional economy, which becomes jobs and incomes for still others.* (ECONorthwest Economic Impacts of the Portland Harbor Superfund Cleanup at page 7).

[20] http://www.oregon4biz.com/Portland-Harbor/PH-Cleanup-Economic-Impact_EcoNW.pdf

The cleanup also could affect the capacity of the Portland region's economy by increasing the stock of natural capital, e.g., a cleaner river and increased supply of related ecosystem services, and physical capital, e.g., developable riverfront property. This process often evolves over time as the investments in the cleanup increase natural capital by generating cleaner water and cleaner sediment. These changes, in turn, could increase human-built capital by reducing the risk of investment and development in and adjacent to the PHSS. Taking the long-run view, cleanup spending is an investment in the growth of the region's economy. By protecting and increasing the supply of the region's natural and physical capital, cleanup spending also complements other investments that Portland has made in its long run growth and development. These investments include CSO controls and sustainable stormwater management, the Clean River Rewards program, and the Tabor to the River project. Our analysis does not address these economic development effects. (ECONorthwest Economic Impacts of the Portland Harbor Superfund Cleanup at page 7).

It is important when assessing the economic impacts of the Portland Harbor cleanup process, that EPA consider the full range of economic benefits as well as costs that will accrue to our community.

23. <u>EPA should investigate characterizing and controlling PCB sources upriver of the Superfund area.</u>

The Remedy Review Board noted that "it appears that there are point and non-point sources (particularly of PCBs) present upgradient of RM 11.8, Because the Region is considering MNR as a remedial component, the boards recommend the Region consider undertaking effort to better characterize and control or remediate, if necessary, upgradient sources to improve natural recovery's viability." (Remedy Review Board Report at page 7) We strongly concur with this recommendation. EPA fails in the draft Plan and FS to explain why it has not incorporated this objective into its plan.

24. <u>EPA should prioritize working with the City, County and State to address current pollution hazards along the Lower Willamette River which could result in future contamination of the river:</u>

While outside the direct purview of CERCLA, the Lower Willamette River is heavily populated with facilities that store large quantities hazardous materials including extensive tank farms and pipelines that are not built to withstand a Cascadia Subduction Zone earthquake.[21] At a time when the community will be making significant investment in cleaning-up past contamination, the EPA should also be prioritizing addressing currently existing hazards that could re-contaminate the river at vastly higher levels than we are currently facing. It is notable how many times during the course of the Portland Harbor Superfund process, we heard officials from public agencies answer concerns about the risk

[21] http://www.oregonlive.com/environment/index.ssf/2013/09/oregons_energy_hub_on_the_will.html

presented by a CDF in the event of an earthquake, by stating something along the lines of "If there is a major earthquake, the CDF will be the least of your problems given the instability of the tank farms along the river." We recommend that the post clean-up phase of the Superfund process include a strategy to reduce risk to the community and environment from existing facilities.

A 2013 report by the State of Oregon entitled *Earthquake Risk Study for Oregon's Critical Energy Infrastructure Hub* concluded the following:

> *Based on visual observations, engineering judgment, limited analyses, and limited information from the facility operator's, city records, and available literature, significant seismic risk exists in the CEI Hub. Some critically important structures appear to be susceptible to significant damage in a major earthquake with potentially catastrophic consequences. Multiple liquid fuel transmission pipe breaks and natural gas transmission pipe breaks are possible. Damage to liquid fuel, natural gas, and electrical facilities in the CEI Hub is likely. The waterway would likely be closed and require clean up.*[22]

EPA should take the opportunity presented by the Portland Harbor Superfund Cleanup process to also work with the City, State, industry and the community to put in place proactive measures to ensure that future risk from existing facilities is minimized as much as possible.

25. **<u>The following issues should be explicitly addressed in the Record of Decision as well as the FS and Plan:</u>**
    a. Legally binding source cleanup obligations for Oregon Department of Environmental Quality. The current draft says that a legally binding requirement "may" be used in the ROD. This should be changed to "shall" be used.
    b. Requirements for performance assurance bonds for PRPs. These bonds must be in place to ensure that an adequate clean-up is implemented and all goals are achieved and they should remain in place for as long as pollution remains in the river. In the case of caps, they should remain in place in perpetuity to ensure adequate funding in the event of damage, rupture, degradation or leakage.
    c. Detailed description of fish monitoring that will be conducted during design, construction and post-construction phases;
    d. Provisions to ensure that PRPs fully fund any habitat restoration work that is required as a result of the construction to implement the remedy;
    e. Explicit statement that the site will not be divided into separate Operable Units;
    f. Detailed description of monitoring programs that will be implemented during the cleanup process for water, air, sound and odor;

[22] http://www.oregon.gov/energy/docs/Earthquake%20Risk%20Study%20in%20Oregon%E2%80%99s%20Critical%20Energy%20Infrastructure%20Hub%202013.pdf

g. A detailed evaluation of the efficacy of outreach efforts to date and a community involvement plan for future phases of the Superfund process;
h. A detailed description plan for enhanced and effective institutional controls that will be implemented to ensure the risk of human exposure to toxics is prevented including provisions for assessing the efficacy of IC's and adaptively managing ICs if they are not proving effective;
i. Clear and measurable parameters to be achieve at the five year reviews and detailed information on how corrective action will be evaluated and implemented in the event that cleanup goals are not being achieved.

26. EPA should prioritize substantively addressing public comments rather than meeting an arbitrary end of the year deadline for a record of decision (ROD):

We are deeply concerned that EPA and political leaders at the local and state levels are inappropriately prioritizing meeting an arbitrary end of the year deadline to produce a final record of decision. We do not believe that it likely that EPA would have sufficient time to read and respond to issues raised by the public during the public comment period and make the substantive changes to the FS and Plan that might be warranted by those comments. The timelines laid out by EPA to produce a final ROD by the end of the year leave virtually no time for meaningful response to public comment suggesting that the Plan is already a done deal and that the public process is little more than a checkbox.

Our understanding is that if EPA were operating on a normal timeline for a plan of this complexity, a final ROD would not be expected until towards the end of 2017, a full year beyond its current target. The following are the lengths of time it took EPA to move from the end of the public comment period to a final record of decision at other Superfund sites of comparable complexity:

- Lower Duwamish River (2013-14): 17 months [23]
- Passaic River (2014-15): 19 months [24]
- Hudson River (2001-02): 10 months [25]

In comparison, the EPA plans to reach a final record of decision on the Portland Harbor Superfund process by December 31, 2016, less than four months after the close of the public comment period and a period that includes the holiday season. Given the EPA's inability to move any aspect of the Portland Harbor Superfund Process along a normal timeline, let alone an expedited timeline, there is simply no reason to believe that EPA could suddenly accelerate the process without sacrificing meaningful review of public comment.

[23] https://yosemite.epa.gov/r10/cleanup.nsf/sites/lduwamish
[24] https://cumulis.epa.gov/supercpad/cursites/dsp_ssppSiteData1.cfm?id=0200613
[25] https://www3.epa.gov/hudson/plans.html

EPA should not sacrifice the integrity of this process in order to achieve an arbitrary, 100% politically driven deadline. The City, State, other PRPs and EPA have had 16-years to develop and analyze this plan; the public has had a total of three months. We urge the EPA to take whatever time is necessary to fully analyze and respond to public comment and amend the Plan as appropriate, as opposed to trying to complete the Plan by the end of 2016.

Conclusion

EPA must use its authority under CERCLA to ensure that the Portland Harbor Superfund Site is cleaned to levels that are protective of the health of humans and wildlife and to hold polluters and other responsible parties fully accountable for the contamination that they have created. The residents of Portland and those downriver of Portland have lived with unsafe levels of toxic contamination in our rivers for far too long. Every person has a right to clean water and we are all harmed by the toxic contamination that has been allowed to persist in Portland Harbor, but it most adversely affects the most vulnerable and underserved people in our community. As both a basic human right to clean water and an matter of environmental justice it is time to clean-up the Willamette River.

The EPA has failed to meet its legal obligations under CERCLA. EPA's preferred alternative will not achieve the threshold criteria of achieving overall protection of human health and the environment and it fails to achieve several other additional evaluation criteria. EPA has presented a plan which does not achieve the majority of its interim or long-term objectives, which relies heavily upon institutional controls that EPA knows have not been effective, and which will leave the majority of Portland Harbor contaminated and contribute to further contamination in the Columbia River. EPA's public engagement process was deficient and its commitment to meet an arbitrary political deadline threatens to further erode the integrity of the public process.

We urge EPA to take the time necessary to improve this plan to meet the requirements of the law and the needs of our community. It is time to clean up our river.

Thank you for your consideration of these comments.

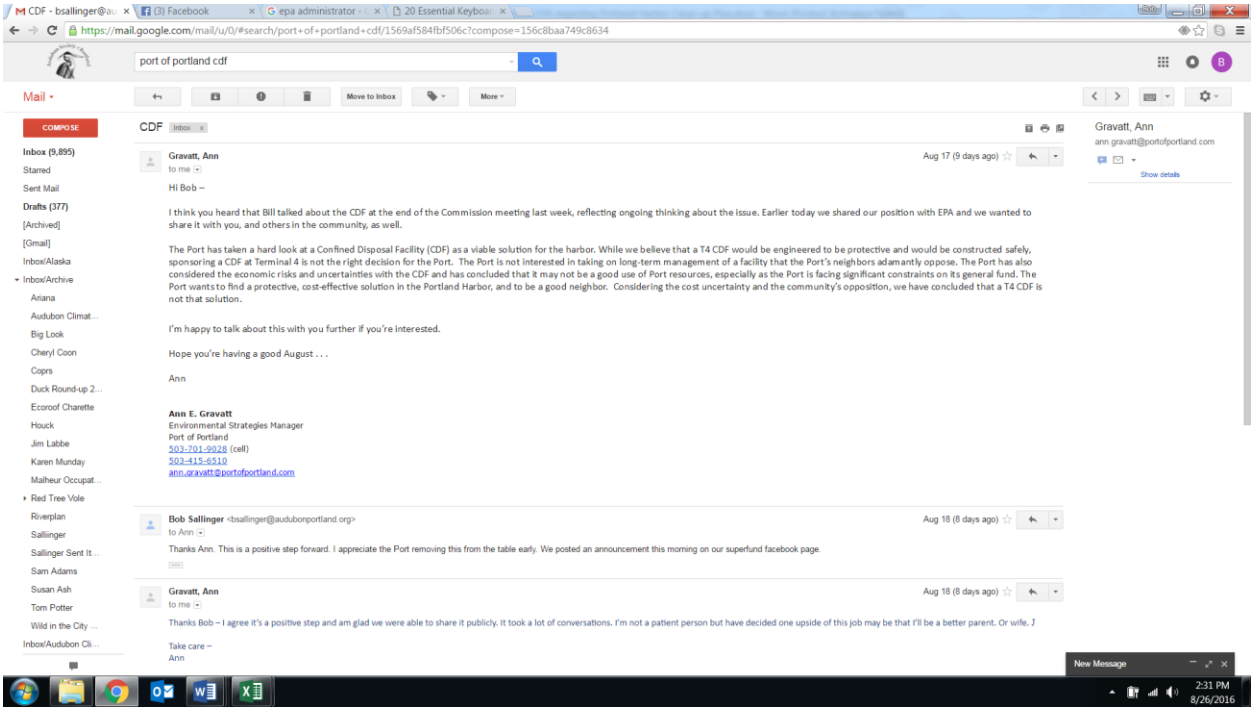
Respectfully,

Bob Sallinger
Conservation Director
Audubon Society of Portland

Cc:
OR Senator Ron Wyden
OR Senator Jeff Merkley
OR Representative Suzanne Bonamici
OR Representative Earl Blumenhauer

OR Representative Peter DeFazio
OR Representative Kurt Schrader
OR Governor Kate Brown
OR Governor's Natural Resource Policy Director Richard Whitman
OR Governor's Natural Resource Advisor Brett Brownscombe
OR Attorney General Ellen Rosenblum
House Speaker Tina Kotek
Representative Lou Frederick
Representative Tawna Sanchez (incoming)
Representative Allisa Keny Guyer
OR Health Authority Director Lynne Saxton
City of Portland Mayor Charlie Hales
City of Portland Commissioner Nick Fish
City of Portland Commissioner Amanda Fritz
City of Portland Commissioner Steve Novick
City of Portland Commissioner Dan Saltzman
City of Portland Auditor
Mary Hull Caballero
City of Portland Bureau of Environmental Services Director Michael Jordan
Metro Council President Tom Hughes
Metro Councilor Bob Stacey
Metro Councilor Shirley Craddick
Metro Councilor Craig Dirkson
Metro Councilor Carlotta Collette
Metro Councilor Sam Chase
Metro Councilor Katheryn Harrington

Appendix A: Communication between Port of Portland and Audubon Society of Portland regarding Confined Disposal Facility (CDF)



Appendix B: Boat Campers in Willamette Cove (Courtesy of Metro)